

DESIGN	NOVEMBER, 2022	BY:	Bobby Joyner
DATE	NOVEMBER, 2022	CHECK	
SCALE	N/A	REVISIONS	
NO. Δ		DESCRIPTION	
DATE			



CONSULTING ENGINEERS, P.A.  
CIVIL, MUNICIPAL &  
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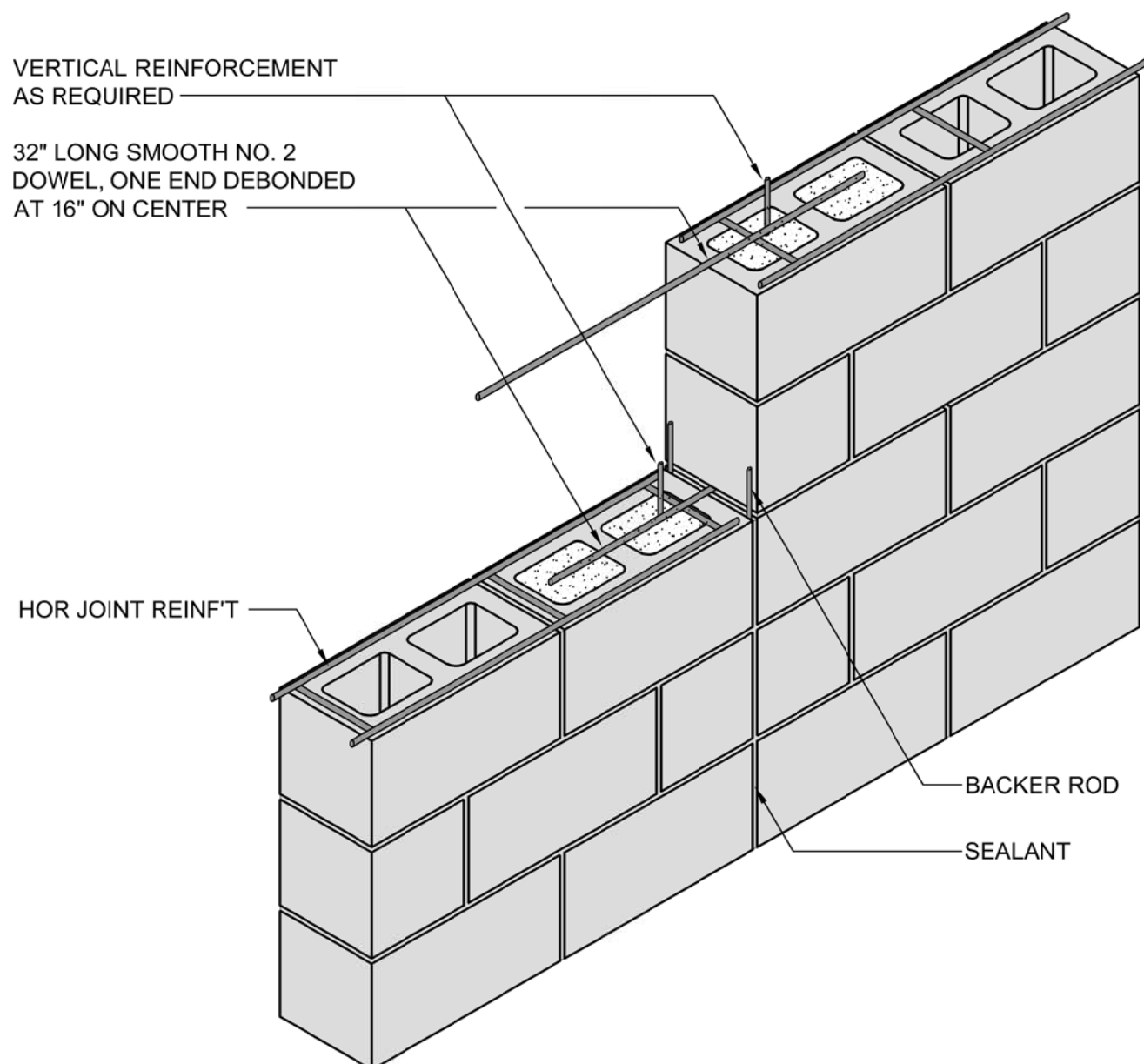
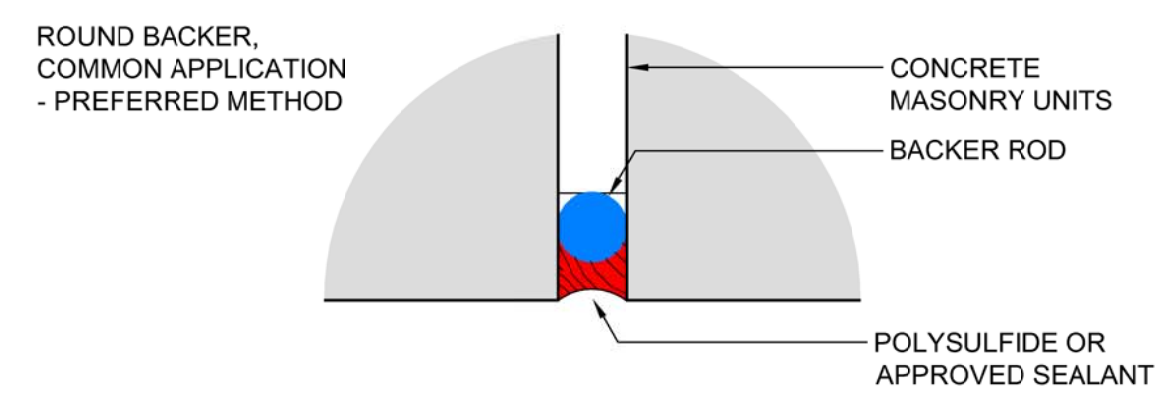
Final Drawings  
Review Purposes ONLY



**STANDARD DETAILS For Hyde  
County N.C. Flood Mitigation  
Assistance Grant 5161-004**

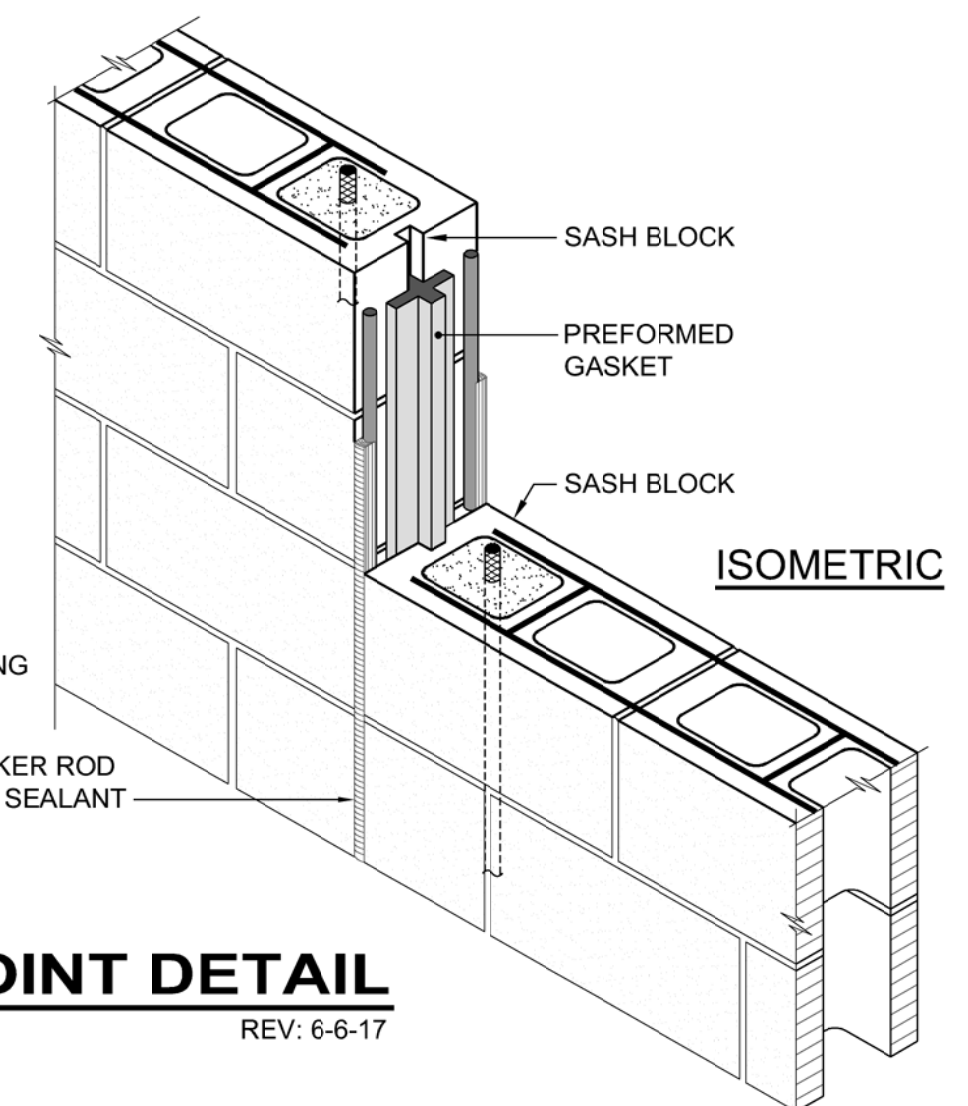
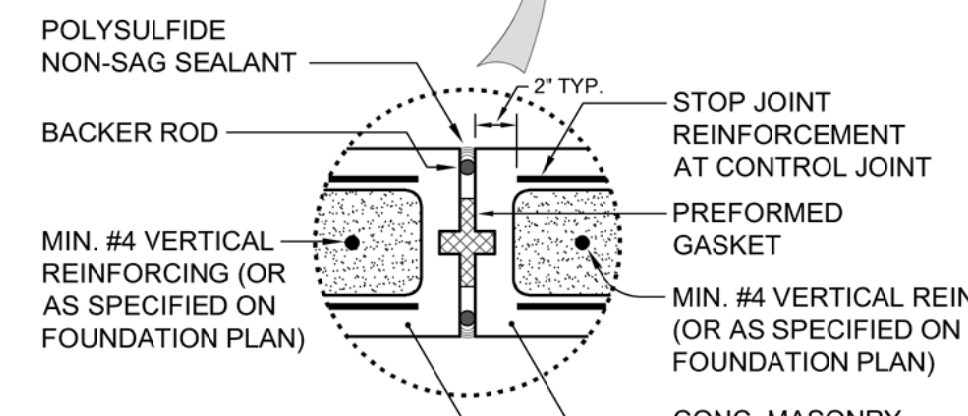
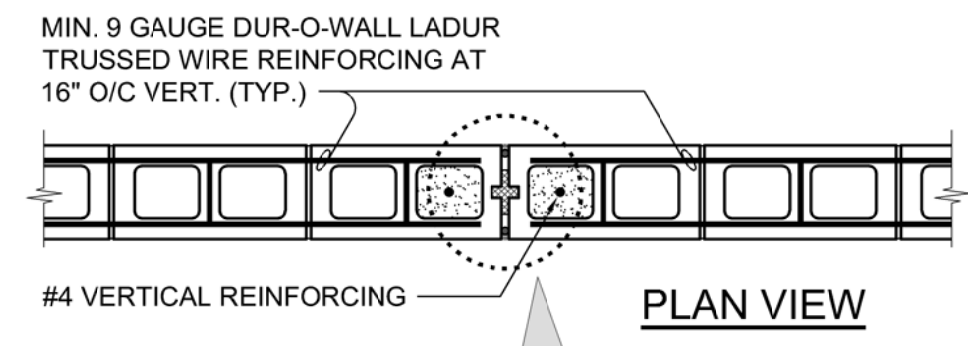
22-089  
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D-8

**DETAIL OF CONTROL  
JOINT SURFACE**



**A DOWELED JOINT - FOR SHEAR TRANSFER**  
(PREFERRED METHOD)

**NOTE:**  
HORIZONTAL REINFORCEMENT TO BE DISCONTINUOUS THROUGH VERTICAL CONTROL JOINTS EXCEPT @ BOND BEAMS.  
UNLESS OTHERWISE DIRECTED BY ENGINEER JOINT TYPES A AND B TO BE USED



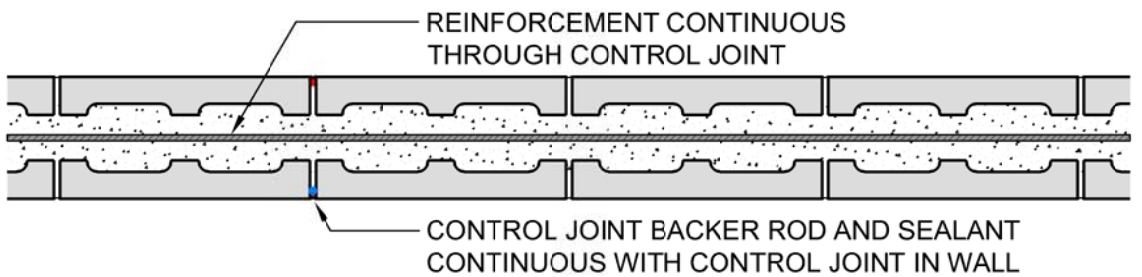
**B VERTICAL CONTROL JOINT DETAIL**

SCALE: 1 1/2" = 1'-0"  
Details Developed By APPAN Consulting Engineers  
REV: 6-6-17

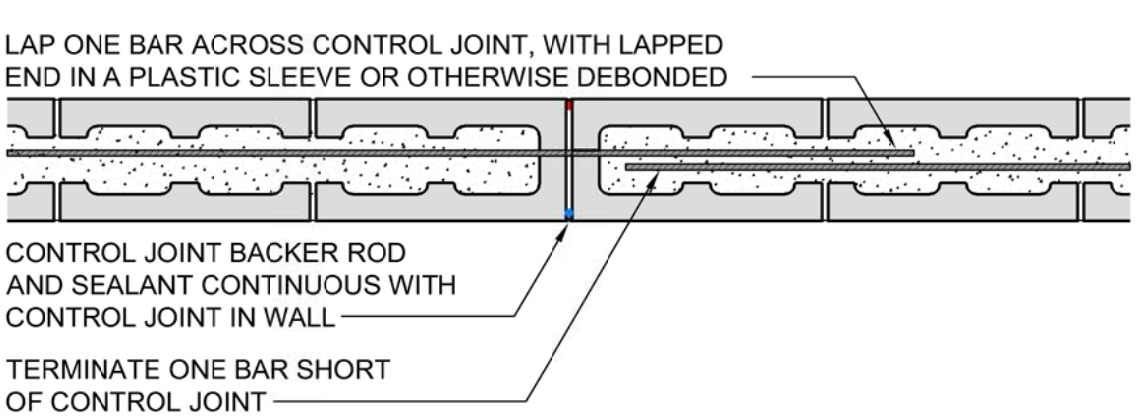
**NOTE:**  
HORIZONTAL REINFORCEMENT TO BE DISCONTINUOUS THROUGH VERTICAL CONTROL JOINTS EXCEPT @ BOND BEAMS. REINFORCEMENT TO BE CONTINUOUS THROUGH VERTICAL EXPANSION JOINT.

**CONTROL JOINT THROUGH BOND BEAMS**

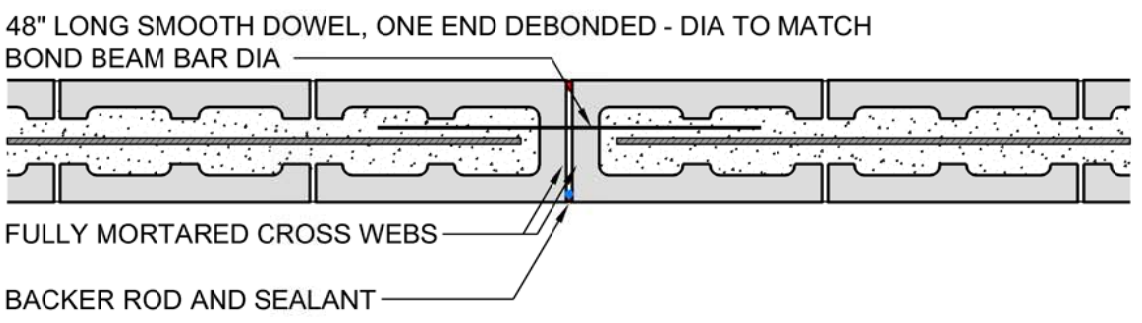
**NOTE:**  
HORIZONTAL REINFORCEMENT TO BE DISCONTINUOUS THROUGH VERTICAL CONTROL JOINTS EXCEPT @ BOND BEAMS. REINFORCEMENT TO BE CONTINUOUS THROUGH VERTICAL EXPANSION JOINT.



**C CONTINUOUS HORIZONTAL REINFORCEMENT**



**D LAPPED HORIZONTAL REINFORCEMENT**



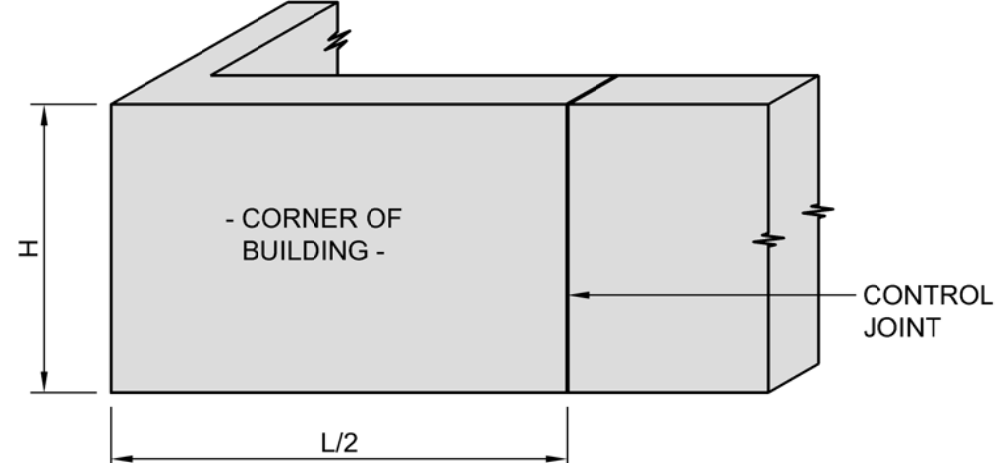
**E DISCONTINUOUS HORIZONTAL  
REINFORCEMENT WITH DOWEL**

**EXAMPLE:**

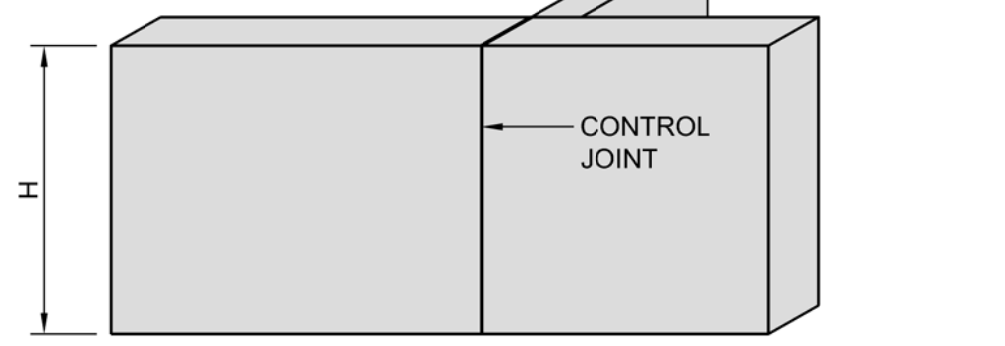
WALL HEIGHT = 7.33'  
ALLOWABLE JOINT SPACING = 1.5 x 7.33 = 11' (24' MAX)

**TYPICAL VERTICAL CONTROL  
JOINT LOCATIONS**

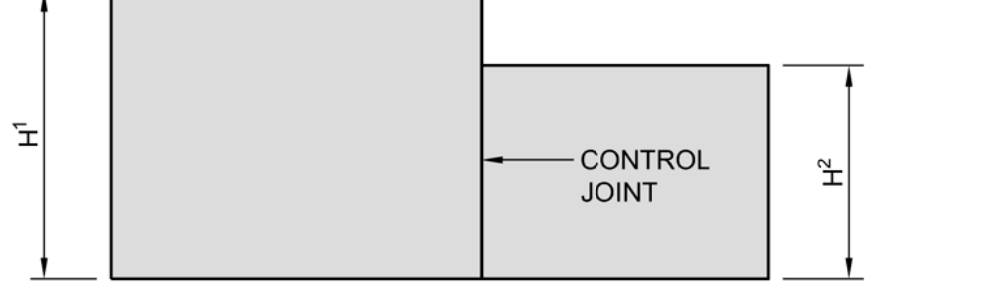
**1. ONE-HALF L FROM BUILDING CORNERS:**



**2. AT WALL INTERSECTIONS:**

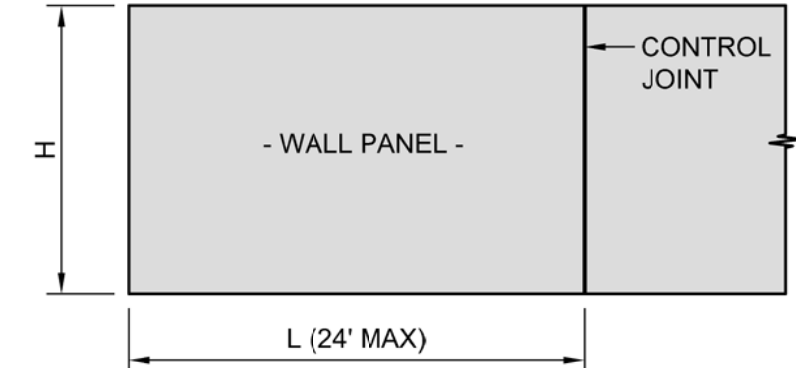


**3. AT CHANGES IN WALL HEIGHT:**



**4. OTHER JOINT LOCATIONS FOR VERTICAL CONTROL JOINTS:**

1. AT CHASES FOR PIPES, FIXTURES, ETC.
2. AT ONE OR BOTH SIDES OF WALL OPENINGS (TYPICALLY ON ONE SIDE FOR OPENINGS <6' WIDE AND ON BOTH SIDES FOR OPENINGS >6' WIDE.)
3. AT ABUTMENT OF WALLS, COLUMN, OR PILASTERS
4. AT CONSTRUCTION JOINTS (JOINTS IN FOUNDATIONS, ROOFS OR FLOORS)
5. AT RETURN ANGLES IN "L", "T", OR "U" - SHAPED STRUCTURES
6. AT ABRUPT CHANGES IN WALL THICKNESS.
7. AT BOND BEAM BREAKS.



**SPACING OF CONTROL JOINTS:**

	JOINT REIN'G @ 16" O/C HORIZONTALLY	REINFORCED CMU <sup>A</sup>
PANEL LENGTH TO HEIGHT, L/H	1.5	3
WALL PANEL LENGTH NOT TO EXCEED	24'	40'

<sup>A</sup>TYPICALLY WALLS W/ BOTH HORIZONTAL AND VERTICAL REBAR IN CONCRETE

**S-49 CONTROL JOINT DETAILS**  
(UNREINFORCED MASONRY)